

Exemption No. 7104A

**UNITED STATES OF AMERICA
DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
RENTON, WASHINGTON 98055-4056**

In the matter of the petition of

Dassault Aviation

for an exemption from § 25.785(a) of
Title 14, Code of Federal Regulations

**Regulatory Docket No.
FAA-2003-16212
(formerly FAA docket 29583)**

GRANT OF EXEMPTION

By letter reference #DGT-DTF/NAV 285637, dated August 26, 2003, Mr. Michel Aguado, Dassault Aviation, DGT/DTA/NAV, BP 24, Avenue M. Dassault, 33702 Merignac Cedex, France, petitioned for an amendment to Exemption No. 7104, previously issued on January 18, 2000. That exemption granted Dassault Aviation certain relief from the general occupant protection requirements of Title 14 Code of Federal Regulations (14 CFR) 25.785(a) at Amendment 25-64 for persons occupying multiple-place side-facing seats during takeoff and landing on Falcon Model 2000 airplanes manufactured prior to January 1, 2004. The petitioner now requests an amendment to Exemption No. 7104 to remove the limitation that restricts its applicability to airplanes manufactured prior to January 1, 2004.

The petitioner requests relief from the following regulation:

Section 25.785(a) at Amendment 25-64 requires general occupant protection for occupants of multiple-place side-facing seats that are occupied during takeoff and landing.

The petitioner's supportive information is as follows:

Dassault Aviation has been granted an exemption (Exemption No. 7104) for Falcon Model 2000 airplanes manufactured prior to January 2004. Dassault Aviation requests an amendment to this exemption to remove the limitation restricting applicability to airplanes manufactured prior to January 2004.

Dassault Aviation hereby petitions for a permanent exemption from the subject rules under § 25.785(b) [§ 25.785(a) at Amendment 25-64] to enable installation of one or more side-facing sofas in Falcon Model 2000 airplanes.

Dassault requests that, if granted, the exemption be made effective before the end of 2003.

Notice and public procedure

In accordance with 14 CFR 11.87, the FAA finds, for good cause, that action on this petition should not be delayed by publication and comment procedures because granting the petition would not set a precedent.

The Federal Aviation Administration's analysis/summary is as follows:

Exemption No. 7104 was granted to Dassault Aviation with a limitation that restricted its applicability to airplanes manufactured before January 1, 2004. The petitioner has requested that this limitation be removed.

Side-facing seats are considered a novel design for transport category airplanes that include Amendment 25-64 in their certification bases, and were not considered when those airworthiness standards were promulgated. Hence, the existing regulations do not provide adequate or appropriate safety standards for occupants of multiple-place side-facing seats. The FAA has been conducting research to develop an acceptable method of compliance with § 25.785(a) for multiple-place side-facing seat installations. Without an acceptable method of compliance available, the FAA finds that it is in the public interest to grant an exemption to the petitioner for Falcon Model 2000 airplanes. This public interest argument does not justify granting exemptions once an acceptable method of compliance with § 25.785(a) is developed. As a result, the FAA does not intend to grant similar exemptions once an acceptable method of compliance is developed.

In consideration of the foregoing, I find that an amendment to Exemption No. 7104 is in the public interest and will not affect the level of safety provided by the regulations. Therefore, pursuant to the authority contained in 49 U.S.C. 40113 and 44701, delegated to me by the Administrator, Dassault Aviation is hereby granted an amendment to Exemption No. 7104 to remove the limitation that restricts its applicability to airplanes manufactured prior to January 1, 2004. This amendment is applicable to Falcon Model 2000 airplanes. All other limitations of Exemption No. 7104 apply to this amendment. These limitations are provided below.

1. Existing Criteria: All injury protection criteria of § 25.562(c)(1) through (c)(6) apply to the occupants of side-facing seating. The Head Injury Criterion (HIC) assessments are only required for head contact with the seat and/or adjacent structures.
2. Body-to-Body Contact: Contact between the head, pelvis, or shoulder area of one Anthropomorphic Test Dummy (ATD) on the adjacent seated ATD's is not allowed during the test conducted in accordance with § 25.562(b)(1) and (b)(2). Incidental

contact of the legs, feet, arms and hands that will not result in incapacitation of the occupants is acceptable. Any contact between adjacent ATD's is acceptable during rebound.

3. Body-to-Wall/Furnishing Contact: If the side-facing divan is installed aft of a structure such as an interior wall or furnishing that may contact the pelvis, upper arm, chest, or head of an occupant seated next to the structure, then a conservative representation of the structure and its stiffness must be included in the tests. In most cases, the representation of the structure would be more rigid and have less deflection under load than the actual installation on the airplanes. The contact surface of this structure must be covered with at least two inches of energy absorbing protective foam, such as ensolite.

4. Thoracic Trauma: Thoracic Trauma Index (TTI) injury criteria must be less than 85, as defined in 49 CFR part 572, subpart F. TTI data must be processed as defined in Federal Motor Vehicle Safety Standard (FMVSS) part 571.214, section S6.13.5.

5. Pelvis: Pelvic lateral acceleration must not exceed 130g. Pelvic acceleration data must be processed as defined in FMVSS part 571.214, section S6.13.5.

6. Shoulder Strap Loads: Where upper torso straps (shoulder straps) are used for sofa occupants, the tension loads in individual straps must not exceed 1,750 pounds. If dual straps are used for restraining the upper torso, the total strap tension loads must not exceed 2,000 pounds.

7. Seat Positions: All seat positions need to be occupied by ATD's for the longitudinal tests.

8. End Closures: All side-facing seats require end closures or other means to prevent the occupant from translating off of the seat.

9. Longitudinal Tests: For the longitudinal tests conducted in accordance with the conditions specified in § 25.562(b)(2), a minimum number of tests will be required as follows:

a. One test will be required with ATD's in all positions, with undeformed floor, 10 degrees yaw, and with all lateral supports (armrests/walls). For configurations with a wall or bulkhead immediately forward of the forward seat position on the sofa, a SID ATD will be used in the forward seat position and a Hybrid II ATD(s) or equivalent will be used for all other seat locations. For configurations without a wall or bulkhead immediately forward of the forward seat, Hybrid II ATD's or equivalent will be used in all seat locations.

b. One test will be required with Hybrid II ATD's or equivalent in all positions, with deformed floor, 10 degrees yaw, and with all lateral supports (armrests/walls). This could be considered the structural test as well.

10. Vertical Test: For the vertical test, conducted in accordance with the conditions specified in § 25.562(b)(1), Hybrid II ATD's or equivalent will be used in all seat positions.

Issued in Renton Washington, on December 1, 2003.

/s/ Ali Bahrami
Acting Manager
Transport Airplane Directorate
Aircraft Certification Service